Wei-Lin Chiang
江韋霖

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Education

Ph.D. in EECS, University of California, Berkeley *Aug. 2020 - present*

- Machine learning and scalable system research at RISElab
- Advisor: Prof. Ion Stoica

M.S. in Computer Science Dept., National Taiwan University *Feb. 2018 - Jul. 2020*

- Large-scale optimization for ML; advisor: Prof. Chih-Jen Lin, GPA: 4.26/4.3

B.S. in Computer Science Dept., National Taiwan University *Sep. 2013 - Jan. 2018*

- GPA: 4.06/4.3 (major GPA: 4.17/4.3) with 4 presidential awards (top 5% award)
- Minor in Mathematics

Research Interests

- Optimization for machine learning, scalable machine learning algorithms, graph mining
- Machine learning software and its large-scale system design

Publications

- Y.-S. Li, **W.-L. Chiang**, and C.-p. Lee. "Manifold Identification for Ultimately Communication-Efficient Distributed Optimization," **ICML 2020**
- **W.-L. Chiang**, X. Liu, S. Si, Y. Li, S. Bengio, and C.-J. Hsieh. "Cluster-GCN: An Efficient Algorithm for Training Deep and Large Graph Convolutional Networks," **ACM KDD 2019**
- C.-Y. Hsia, **W.-L. Chiang**, and C.-J. Lin. "Preconditioned Conjugate Gradient Methods in Truncated Newton Frameworks for Large-scale Linear Classification," **ACML 2018** (**Best Paper Award**)
- **W.-L. Chiang**, Y.-S. Li, C.-p. Lee, and C.-J. Lin. "Limited-memory Common-directions Method for Distributed L1-regularized Linear Classification," **SIAM SDM 2018**
- **W.-L. Chiang**, M.-C. Lee, and C.-J. Lin. "Parallel Dual Coordinate Descent Method for Large-scale Linear Classification in Multi-core Environments," **ACM KDD 2016**
- M.-C. Lee, **W.-L. Chiang**, and C.-J. Lin. "Fast Matrix-vector Multiplications for Large-scale Logistic Regression on Shared-memory Systems," **IEEE ICDM 2015**

Work Experience

Intern@Google Research, Mountain View *Dec 2018 - Mar 2019*

- Developing efficient algorithms for training large (million-scale) and deep GCN models
- Achieved state-of-the-art performance on several public datasets (PPI, reddit)
- Mentors: Prof. Cho-Jui Hsieh and Si Si

Intern@Alibaba Group, Hangzhou *July 2017 - Sept 2017*

- Developing distributed ML algorithms on Alibaba's parameter server (KunPeng)
- Reduced the training time (5% ~ 30%) of billion-scale models behind Ads and recommendation systems
- Mentors: Prof. Chih-Jen Lin and Wei Chu

Intern@Microsoft Research Asia, Beijing *December 2016 - February 2017*

- Investigating distributed training methods on deep learning frameworks
- Mentors: Qiwei Ye

Research Intern@Microsoft, Redmond *July 2016 - October 2016*

- Developing large-scale ML algorithms on Microsoft's distributed platform (REEF)
- Implemented Newton's method for solving billion-scale Ads CTR problems
- Mentors: Prof. Chih-Jen Lin and Sathiya Keerthi

Awards and Honors

- **Best Paper Award, ACML** *2018*
- **Bachelor Thesis Award, First Prize, National Taiwan University** *2017*
- **Innovative Undergraduate Research Award, Ministry of Science and Technology** *2017*
- **Undergraduate Research Award, First Prize, NTU CSIE** *2016*
- **Student Travel Award, KDD** *2016, 2019*
- **Student Travel Award, SDM** *2018*

Open-source Research Projects

Cluster-GCN *Spring 2019 - present*

- Major developer of an efficient algorithm for training large and deep GCN
- Link: `https://github.com/google-research/google-research/tree/master/cluster_gcn`

Distributed LIBLINEAR *Summer 2017 - present*

- One of the major developers of a distributed extension of a widely-used linear classification package
- The study is based on L1 regularized linear classification which published at SDM 2018
- Link: `https://www.csie.ntu.edu.tw/~cjlin/libsvmtools/distributed-liblinear/`

Multi-core LIBLINEAR *Spring 2015 - present*

- One of the major developers of a multi-core extension of a widely-used linear classification package
- The study on primal solvers is published at ICDM 2015; the one on dual solvers is published at KDD 2016
- Link: `https://www.csie.ntu.edu.tw/~cjlin/libsvmtools/multicore-liblinear/`

Teaching Experience

Lecturer/Organizer @ Project Sprout, National Taiwan University *Spring 2014 - Spring 2017*

- C++/Python programming courses for senior high students in Taiwan
- Taught over 700 students and obtained sponsorship from Microsoft, Trend Micro, CyberLink and SYSTEX
- Facebook page: `https://www.facebook.com/ntucsiesprout`

Teaching Assistant, National Taiwan University *Fall 2015*

- *Introduction to the Theory of Computation* instructed by Prof. Chih-Jen Lin